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A HYBRID AMORPHA AND NEW FORMS AND RECORDS FROM MISSOURI

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THE botanical activities of the author have been restricted during the past four years to collecting in a limited area in southwestern Missouri. It has been possible to make a rather intensive study of the flora of Barton, Lawrence, Dade and Newton counties, and to do a little additional exploring in Jasper, Stone, Barry, and a few other adjacent counties. This work has resulted in greatly expanding the plant lists of the four first mentioned counties and in turning up a number of unexpected plants, some of them not previously known in this part of the state and a few of them new to the state flora or not credited to the state in the eighth edition of Gray's Manual, or not recorded at all in that work. This list records and describes a hybrid *Amorpha* and new forms of two other plants, as well as new records for the state of several other species, varieties and forms. Several other plants are still under investigation and may be reported on later.

White-flowered forms of plants normally having colored corollas are not uncommon, and it seems that they are likely to occur in almost any genus. It has been customary and seems convenient to give them distinctive names. So far as I know, this is the first record of a hybrid in the genus *Amorpha*, although hybrids in a number of related leguminous genera are known in cultivation.

Amorpha canescens is a common plant of upland or rocky prairies in this vicinity. It is a low spreading plant seldom over half a meter in height, and it is conspicuous on account of the dense cinereous pubescence of the foliage and young branches, and

its densely flowered spikes of bright bluish purple flowers. *Amorpha fruticosa* is equally abundant, but grows in moister situations along small streams. It is a taller plant, up to two meters high, with green, thinly pubescent or nearly glabrous leaves and darker purple flowers. The plant taken as the type of the hybrid described below was found on a rocky bank between the upland prairie and an alluvial creek valley. Both supposed parent species are abundant within a short distance. The plant resembles *Amorpha canescens* in the dense gray pubescence of its foliage and young branches, and also in its pubescent inflorescence and fruit. But in the size, shape, and arrangement of the leaflets and in the form of the fruit with its curved back and short erect beak as well as in the character of the sepals it is closer to *Amorpha fruticosa*. While only one plant has been found, it too is intermediate in size and habit between the average of the two parent species.

Amorpha × **notha**, *hyb. nov.* (*Amorpha canescens* Pursh × *Amorpha fruticosa* L.).

Frutex erectus 1–1.5 m. altus, ramis annotinis gracilibus striato-sulcatis dense pubescentibus cineris, vestitudioribus teretibus glabris cinereo-brunneis. Folia conferta 5–10 cm. longa, 2–4.5 cm. lata superne aliquantum pubescentia infra dense cinerea; foliola 19–27, lateralia oblonga basi et apice rotunda, foliola terminalia obovata basi cuneata apice truncata vel emarginata. Inflorescentiae paniculato-racemosae densiflorae; flores 4–5 mm. longi sepalis brevi-deltoidis subaequalibus infimis anguste lanceolatis exceptis. Legumen obliquo-obovatum 4–5 mm. longum dorso incurvo pubescens punctato-glandulosum rostro erecto.

An erect shrub 1–1.5 m. tall with slender erect branches, deeply striate or sulcate and densely gray pubescent during the first season, becoming terete, glabrous and grayish brown the second year. Leaves 5–10 cm. long, 2–4.5 cm. wide, densely gray pubescent beneath, green and thinly pubescent above, firm at maturity. Leaflets 19–27, the lateral ones oblong, rounded at base and apex, 1–1.6 cm. long, 4–6 mm. wide, the terminal ones obovate cuneate at base and truncate or emarginate at apex, with deeply impressed midrib and obscure lateral veins. Flowers in densely flowered branching panicles, the terminal branch 8–10 cm. long and about 1 cm. thick, the lower ones shorter, more slender, and later-flowered. The four upper sepals very short deltoid and subequal, the lowest one longer and narrowly lanceolate. The entire panicle, like the foliage, densely gray pubescent, as are also the sepals; petals bright bluish-purple. Pods 4–5 mm. long, obliquely obovate, curved on the back, with a short erect beak, pubescent between the large black glandular dots.

Low rocky bank between upland prairie and the alluvial valley of Center Creek, about 1 mile north of Webb City, Jasper Co., Missouri.

E. J. Palmer, No. 52047, May 27, 1951 (type); 52930, same collector and locality, Aug. 9, 1951 (paratype, in fruit).

Gerardia fasciculata Ell. forma ***albiflora***, f. nov. A typo differt corollis albis. Swales of upland prairie, one half mile north of Webb City, Jasper Co., Missouri. *E. J. Palmer*, No. 50841, Aug. 30, 1950 (type).

Gerardia fasciculata is a southern species widely distributed in the coastal plain of the southern states. In Missouri it is confined to a few southwestern counties near the Kansas border, where it is common on moist prairies in some localities. A large colony of several hundred plants was found on a prairie just north of Webb City, in which perhaps two thirds of the flowers were pure white, while those of the remainder were of the usual pinkish purple color. I have not seen the white flowered form elsewhere.

Collinsia violacea Nutt. forma ***pallida***, f. nov. A typo differt corollis albis mutatis valde pallidis purpureis exsiccatis. Rocky open upland woods and clearings, 3 miles s. w. of Webb City, Jasper Co., Missouri. *E. J. Palmer*, No. 45867 (type), April 28, 1949.

The southwestern species related to Blue-eyed-Mary of farther north is one of the prettiest and most abundant wild flowers in rocky upland woods in parts of southwestern Missouri and through much of the Ozark region. A number of plants with pure white corollas were found growing among the normal violet-colored form. While the corollas of the living flowers were pure white, they changed to a very pale violet color when pressed and dried.

The types of the hybrid and two forms described above are in the herbarium of E. J. Palmer, Webb City, Missouri. Isotypes are in the herbarium of the Chicago Natural History Museum, and specimens will be sent to Gray Herbarium, the Missouri Botanical Garden, and other herbaria.

The following species, varieties and forms have not previously been recorded from Missouri or are not definitely shown within the state in the ranges given in the eighth edition of Gray's Manual:

CINNA ARUNDINACEA L. var. INEXPANSA Fern. and Griseb. No. 49826, Joplin, Jasper Co., Sept. 26, 1950; 51018, Milford, Barton Co., Sept. 6, 1950; 51103, Greenfield, Dade Co., Sept. 14, 1950.

ALLIUM OLERACEUM L. No. 50337, cleared ground and border of woods, 1 mile east of Mt. Vernon, Lawrence Co. Abundant locally.

ARENARIA SERPYLLIFOLIA L. var. *TENUIOR* Mert. and Koch. Waste ground, *No. 49133*, rocky waste ground, Joplin, Jasper Co., June 8, 1949.

RANUNCULUS MICRANTHUS Nutt. var. *DELITESCENS* (Greene) Fern. *No. 51721*, along wooded rocky bluff of Sac River, near Siebert, Dade Co., May 6, 1951.

CLEMATIS DIOSCOREIFOLIA Lévl. and Vaniot. *No. 50751*, waste ground, Aurora, Lawrence Co., Aug. 15, 1950; *54920*, along roadside, Webb City, Jasper Co., Aug. 24, 1952. This species is also growing as an escape near Eureka Springs, Arkansas.

RORIPPA ISLANDICA (Oeder) Borbas. *No. 51237*, Lawrenceburg, Lawrence Co., Sept. 27, 1950.

VICIA CRACCA L. *No. 49124*, waste ground along Stockyard Switch, Joplin, Jasper Co., June 3, 1949.

EUPHORBIA HETEROPHYLLA L. var. *GRAMINIFOLIA* (Michx.) Engelm. *No. 51108*, Avilla, Jasper Co., Sept. 20, 1950.

VIOLA SORORIA Willd. f. *BECKWITHAE* House. *No. 51520*, on moist shaded ledge of sandstone bluff, near Greenfield, Dade Co., Nov. 1, 1950; *51774*, same locality, May 6, 1951.

IPOMOEA HEDERACEA (L.) Jacq. var. *INTEGRIUSCULA* Gray. *No. 55129*, waste ground, upland prairie, near Carterville, Jasper C., Sept. 21, 1952.

MIMULUS ALATUS Ait. f. *ALBIFLORUS* House. *No. 50783*, swampy ground along Spring River, near Verona, Lawrence Co., Aug. 22, 1950.

VALERIANELLA OLITORIA (L.) Poll. *No. 51807*, waste ground along border of field and small stream, near Verona, Lawrence Co., May 10, 1951. The specimen was determined by Mrs. Sarah Dyall Nielsen.

CIRSIUM DISCOLOR (Muhl.) Spreng. f. *ALBIFLORUM* (Britt.) House. *No. 52951*, near Webb City, Jasper Co., Aug. 9, 1951.

The two following plants which were not included in the latest edition of Gray's Manual should be credited to Missouri, as reported by Palmer and Steyermark:¹

ACACIA ANGUSTISSIMA (Mill.) Ktze. The typical glabrous form has been found in Barry County. A recent collection was *No. 52795*, rocky open woods, Roaring River State Park, July 25, 1951.

BAPTISIA SPHAEROCARPA Nutt. This southwestern species is well established along the Frisco railway between Washburn and Seligman, Barry Co., Mo., where it has been observed for many years, and several collections have been made. It has also been reported from St. Louis Co.

All of the collections reported above are under the author's numbers, and specimens of the plants are deposited in his herbarium.—WEBB CITY, MISSOURI.

¹ An annotated catalogue of the flowering plants of Missouri, *Ann. Mo. Bot. Gard.* **22**: 573, 575. 1935.